

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 December 2001 (27.12.2001)

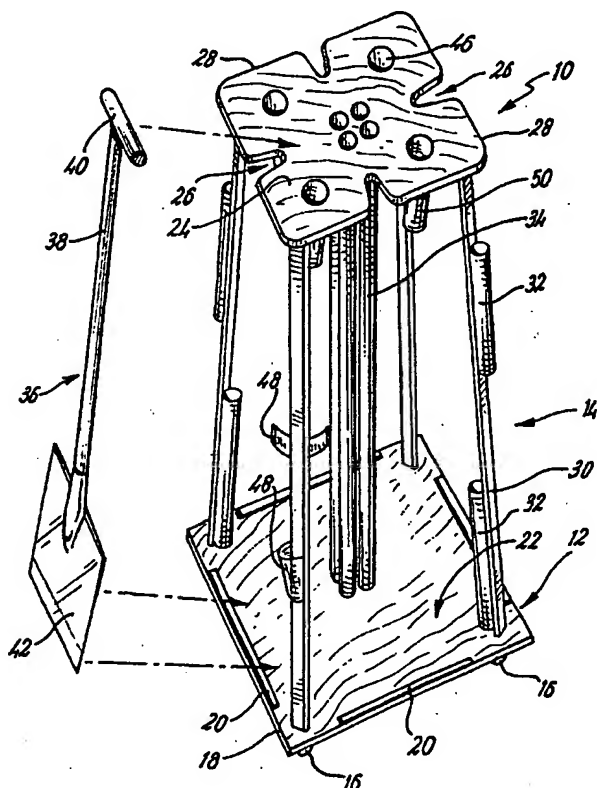
PCT

(10) International Publication Number
WO 01/98037 A1

- (51) International Patent Classification⁷: B25H 3/04, (74) Agent: WATKINS, Rosalind, Philippa; Swindell & Pearson, 48 Friar Gate, Derby DE1 1GY (GB).
B62B 3/10
- (21) International Application Number: PCT/GB01/02721 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (22) International Filing Date: 20 June 2001 (20.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0015071.4 21 June 2000 (21.06.2000) GB (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant and
(72) Inventor: SWIFT, Alan, Alexander [GB/GB]; 5 Chapel Lane, Rangemore, Burton-on-Trent, Staffordshire DE13 9RR (GB).

[Continued on next page]

(54) Title: STORAGE APPARATUS



(57) Abstract: An apparatus (10) for storing garden implements includes a base (12) supported by wheels allowing movement of the apparatus (10). The base (12) mounts an upstanding support structure (14), and means for storing a variety of shapes and sizes of garden implements are located on various parts of the support structure (14) to provide a compact, mobile storage apparatus (10).

WO 01/98037 A1



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Storage Apparatus

The invention relates to a storage apparatus for garden tools and implements.

Many people store gardens tools and implements either loose or in racks, in garden sheds or garages. It can be difficult to gain access to all the various tools, particularly when the shed or garage is also used for storing other items and especially if a car is stored in the same area.

According to the invention there is provided a storage apparatus for garden implements, the storage apparatus including a base and an upstanding support structure mounted on the base, the support structure being provided with means for receiving a plurality of garden implements, wherein the base is mounted on roller means which allow the base to rotate and to move laterally relative to the ground on which it rests.

Preferably the base is mounted on at least three roller means.

Preferably the base includes a generally planar member. Preferably the roller means are mounted on a lower surface of the planar member in use. Preferably the roller means mount the planar member generally parallel to the ground.

The planar member may be generally rectangular and may be provided with a roller means at least at each of four corner regions. Preferably the planar member is approximately square.

The planar member may include edge members, extending at least partly along one or more of its edges and upstanding out of the general plane of the planar member.

The planar member may be between about 0.3m and 1m square and may have a thickness of between 10mm and 50mm.

The roller members may include one or more castors. Preferably each roller member comprises a castor. Preferably the castors include rollers wheels which rotate about a generally horizontal axis and which may pivot about a generally vertical axis.

The support structure may include at least three elongate support members extending upwardly in use from the base. Preferably the support structure includes four such support members. One support member may extend upwardly from each corner region of the base.

The support members may be between 0.5m and 1.5m long and are preferably about 1m long. The support members may have a thickness of between 10mm and 50mm.

The support members may extend between the base and an upper platform located generally above the base in use. The upper platform may be substantially planar and may lie approximately parallel to the base. The upper platform may be approximately the same overall shape as the base, but may be smaller than the base. The area of the platform may be between one third and three quarters of the area of the base. Each support member may extend between a corner region of the base and a corner region of the upper platform, such that the support member slopes inwardly.

One or more support members may be provided with means for receiving garden implements. These means may include at least one tube or pouch attached to the support member. The tube may be generally cylindrical and may be suitable for receiving hand tools. The tube may be between 100mm and 300mm in length and between 20mm and 60mm in diameter.

One or more edges of the upper platform may be provided with a recess for receiving a handle of a garden tool. Each edge may include a recess, which may be located about half way along the edge.

The upper platform may further include one or more openings which

may be provided with recessed containers for receiving small items.

The storage apparatus may include means for receiving a portion of a garden tool and retaining it therein. The storage apparatus may include one or more elongate hollow members for receiving cylindrical handles of large garden implements. The elongate hollow members are preferably orientated generally vertically in use. Preferably each elongate hollow member extends generally from a central region of the base to a central region of the upper platform. Preferably the elongate hollow member extends through the upper platform, such that a tool may be inserted into the hollow member from above the upper platform. Preferably each elongate hollow member is cylindrical and is open at its upper end. The diameter of each elongate member may be between 20mm and 70mm. Preferably at least three, and most preferably four, elongate hollow members are provided.

The elongate hollow members may be provided with means for attaching implements externally thereto. These means may include straps, which may be provided with fastening means, such as hook and fleece fastenings (for example VELCRO - trade mark).

Embodiments of the invention will be described for the purpose of illustration only with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a storage apparatus according to a first embodiment of the invention;

Fig. 2 is a section through an alternative leg for the storage apparatus of Fig. 1; and

Fig. 3 is a perspective view of a storage apparatus according to a second embodiment of the invention.

Referring to the drawing, a storage apparatus 10 includes a base 12 on which is mounted an upstanding support structure 14. The upstanding support

structure is able to receive and store garden implements, as described in more detail hereinafter.

In the illustrated example, the base 12 consists of a planar piece of wood about 0.4m by 0.4m square and having a thickness of about 18mm.

The base 12 is mounted on four castors 16, one castor being provided approximately at each corner of the base. Each castor 16 includes a wheel which is able to rotate about a horizontal axis and to pivot about a generally vertical axis. This allows the base to be moved laterally in any desired direction and alternatively to be rotated about a central vertical axis.

Each edge 18 of the base 12 is provided with an elongate edge piece 20 mounted on an upper surface 22 of the base. Each edge piece 20 extends along a part of its respective edge 18 and performs a function which is described in more detail below.

The support structure 14 includes an upper platform 24 located generally above the base 12. In this embodiment, the upper platform consists of a generally square, planar piece of wood having a size about 0.33m square and a thickness of about 18mm. The upper platform 24 includes indentations 26 in its respective edges 28.

The upper platform 24 is supported on the base 12 by support members in the form of legs 30. A leg 30 extends between each corner region of the upper platform 24 and a corresponding corner region of the base 12. Thus, each leg 30 slopes slightly inwardly. Each leg 30 may be about 0.7m long and may be square or circular in cross section, having a thickness for example of about 20mm by 45mm.

Each leg 30 is provided with a number of means for receiving small garden implements. These means comprise generally cylindrical tubes 32. The tubes are about 400mm in length and about 40mm in diameter. In addition to the tubes 32, one or more of the legs 30 may be provided with specially shaped

fittings or pouches for receiving other garden implements, for example secateurs. One such fitting is illustrated in the drawing. The fitting 48 includes a pouch for accommodating the nose of a pair of shears and a pair of short-arms for the handles.

The storage apparatus 10 further includes four central elongate cylinders 34 receiving long handles of large garden tools, such as rakes, hoes, etc. The cylinders 34 extend from a central region of the base 12 to a central region of the upper platform 24 and are open at their upper ends. The cylinders 34 extend through the upper platform 24, such that they may be accessed from above the upper platform.

The upper platform 24 is provided with four openings 46 extending therethrough. Extending downwardly from each opening is a container 50, which may be used to store small items, such as plastic ties, plant labels and pens or pencils. The containers 50 could be provided with lids (not illustrated). The containers 50 extend only minimally above the upper platform 24 and therefore do not hinder access to the cylinders 34.

The storage apparatus 10 may be used as follow. Referring to the drawing, a spade 36 may be placed with its shaft 38 in the indentation 26 of the upper platform 24. Its handle 40 then rests above the indentation, on the platform 24. Its digging part 42 may be rested on the base 12, inwardly of the edge piece 20. Because of the inward slope from the base 12 to the upper platform 24, the spade 36 rests in a stable position, held in place by the indentation 26 and the edge piece 20. It is apparent that four spades, forks or similar tools may be arranged around the edge of the storage apparatus 10.

A long handled tool, such as a rake, may be inserted upside down into one of the cylinders 34. Three more such tools may be subsequently be stored in the cylinders 34 in the centre of the storage apparatus 10.

Smaller garden implements may be stored in the tubes 32 on the legs 30 of the storage apparatus 10. For example, the handles of small forks, trowels,

etc. may be inserted into the tubes 32. Alternatively, small implements may be stored in pouches located on the legs 30 and shears and hand grass cutters may be stored in specially designed fittings.

There is thus provided a storage apparatus which allows for the convenient storage of garden tools and allows the tools to be accessed easily. The castors 16 allow the storage apparatus to be rotated about its centre. This allows the apparatus to be rotated to allow access to any tools stored therein. The apparatus 10 may also be moved laterally, from one location to another, so may for instance be stored in a relatively inaccessible corner but wheeled out for use. It is easy to remove any one tool from the apparatus without having to move any other tools.

Fig. 3 shows a storage apparatus according to a second embodiment of the invention with corresponding features labelled identically to those of the first embodiment shown in Fig. 1.

The storage apparatus 10 is similar to that shown in Fig. 1 having a base 12 on which is mounted an upstanding support structure 14. In this embodiment the base 12 is generally triangular with rounded edges and three legs 30 are provided to support the upper platform 24.

Castors 16 are provided at each corner of the base and each castor 16 includes a wheel as previously described.

A variety of storage means are provided as described previously. In addition, the apparatus includes an open ended cylinder 58 mounted on one of the legs 30. Also mounted on that leg, aligned with the cylinder 58, is a pocket 60 which is able to safely receive, for example, the sharp ends of items such as garden shears. A tub 62 is also provided on the base 12 surrounding the cylinders 34 to hold smaller items.

Various modifications may be made to the above described embodiment without departing from the scope of the invention. The central cylinders 34, or

the legs 30, may be provided with straps, for allowing other implements to be attached thereto. For example, flexible straps may be attached to the central cylinders 34, the straps being provided with hook and fleece fastenings so that they may be attached together. Such straps may be wrapped around infrequently used implements such as branch loppers and attached together with the hook and fleece, thereby retaining the implements tidily at the centre of the storage apparatus.

The legs 30 may be shaped as illustrated in Fig. 2. The leg 30 when viewed in cross section is generally dumbbell or bone shaped, having a central elongate portion 52 extending between broader end portions 54. This shape of leg easily accommodates holders 56 for tools.

The illustrated embodiment is made generally from wood. However, the apparatus could be made from plastics materials or, for example, from metal. The shapes of the various elements of the apparatus may be altered, provided that they still receive garden implements.

Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings whether or not particular emphasis has been placed thereon.

CLAIMS

1. A storage apparatus for garden implements, the storage apparatus including a base and an upstanding support structure mounted on the base, the support structure being provided with means for receiving a plurality of garden implements, wherein the base is mounted on roller means which allow the base to rotate and to move laterally relative to the ground on which it rests.
2. Storage apparatus according to claim 1, wherein the base is mounted on at least three roller means.
3. Storage apparatus according to claim 1 or claim 2, wherein the base includes a generally planar member and wherein the roller means are mounted on a lower surface of the planar member in use.
4. Storage apparatus according to claim 3, wherein the roller means mount the planar member generally parallel to the ground.
5. Storage apparatus according to claim 3 or claim 4, wherein the planar member is generally rectangular and is provided with a roller means at least at each of four corner regions.
6. Storage apparatus according to any of claims 3 to 5, wherein the planar member includes edge members, extending at least partly along one or more of its edges and upstanding out of the general plane of the planar member.
7. Storage apparatus according to any of the preceding claims, wherein the roller members include one or more castors.
8. Storage apparatus according to claim 7, wherein the castors include rollers or wheels which rotate about a generally horizontal axis.
9. Storage apparatus according to claim 8, wherein the rollers or wheels pivot about a generally vertical axis.

10. Storage apparatus according to any of the preceding claims, wherein the support structure includes at least three elongate support members extending upwardly in use from the base.

11. Storage apparatus according to claim 10, wherein the support members extend between the base and an upper platform located generally above the base in use.

12. Storage apparatus according to claim 11, wherein the upper platform is substantially planar and lies approximately parallel to the base.

13. Storage apparatus according to claim 12, wherein the upper platform is approximately the same overall shape as the base, but is smaller than the base.

14. Storage apparatus according to claim 13, wherein the area of the platform is between one third and three quarters of the area of the base.

15. Storage apparatus according to claim 13 or 14, wherein each support member extends between a corner region of the base and a corner region of the upper platform, such that the support member slopes inwardly.

16. Storage apparatus according to any of claims 10 to 15, wherein one or more support members are provided with means for receiving garden implements.

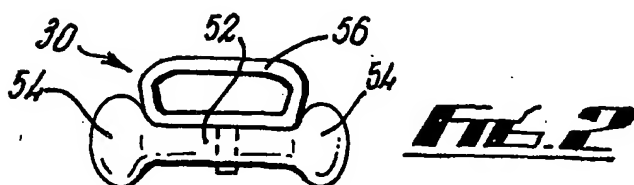
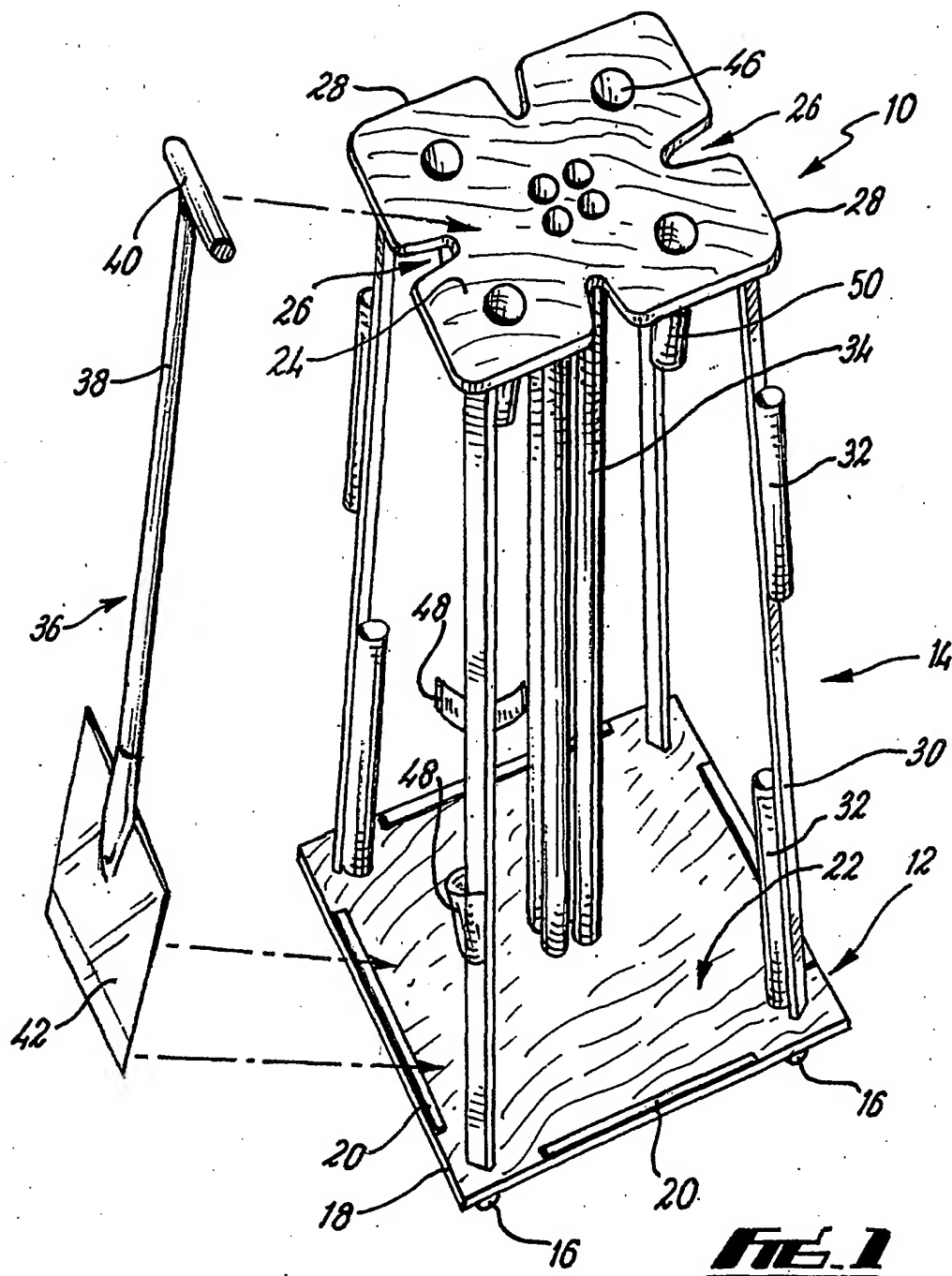
17. Storage apparatus according to claim 16, wherein these means include at least one tube or pouch attached to the support member.

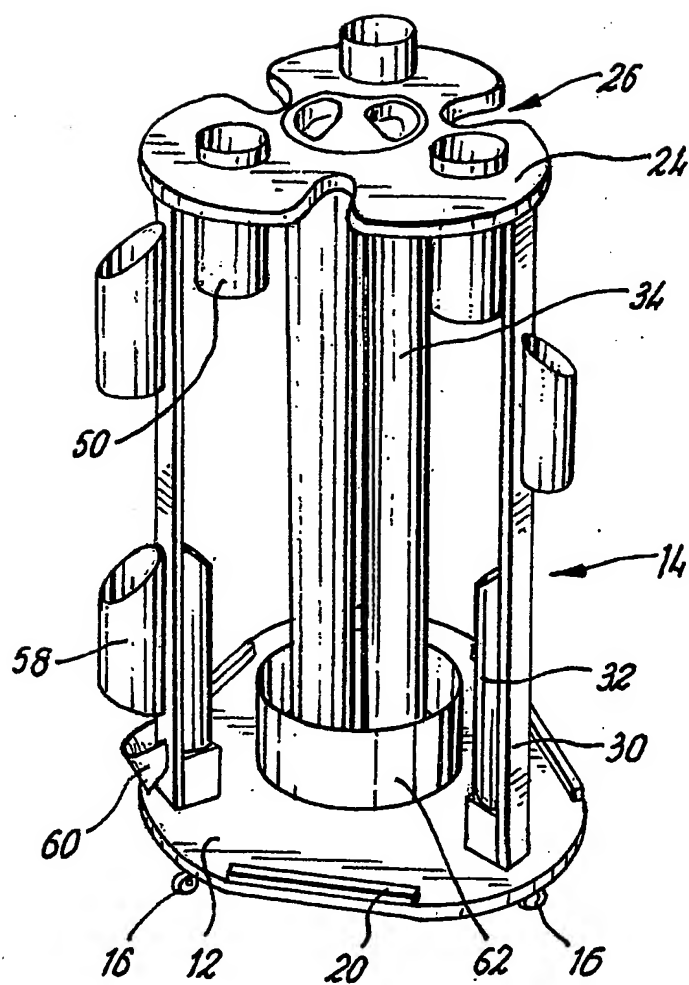
18. Storage apparatus according to claim 17, wherein the tube is generally cylindrical.

19. Storage apparatus according to any of claims 11 to 15, wherein one or more edges of the upper platform are provided with a recess for receiving a handle of a garden tool.

20. Storage apparatus according to claim 19, wherein each edge includes a recess.
21. Storage apparatus according to claim 20, wherein the recess is located about half way along the edge.
22. Storage apparatus according to any of claims 19 to 21, wherein the upper platform further includes one or more openings.
23. Storage apparatus according to claim 22, wherein each opening is provided with recessed containers for receiving small items.
24. Storage apparatus according to any of the preceding claims, wherein the storage apparatus includes means for receiving a portion of a garden tool and retaining it therein.
25. Storage apparatus according to claim 24, wherein the storage apparatus includes one or more elongate hollow members for receiving cylindrical handles of large garden implements.
26. Storage apparatus according to claim 25, wherein the elongate hollow members are orientated generally vertically in use.
27. Storage apparatus according to claim 26, wherein each elongate hollow member extends generally from a central region of the base to a central region of the upper platform.
28. Storage apparatus according to claim 27, wherein the elongate hollow member extends through the upper platform, such that a tool can be inserted into the hollow member from above the upper platform.
29. Storage apparatus according to claim 28, wherein each elongate hollow member is cylindrical and is open at its upper end.

30. Storage apparatus according to any of claims 25 to 29, wherein at least three elongate hollow members are provided.
31. Storage apparatus according to any of claims 25 to 30, wherein the elongate hollow members are provided with means for attaching implements externally thereto.
32. Storage apparatus according to claim 31, wherein the means include straps.
33. Storage apparatus according to claim 32, wherein the straps are provided with fastening means, such as hook and fleece fastenings.
34. A storage apparatus substantially as herein described with reference to the accompanying drawings.
35. Any novel subject matter or combination including novel subject matter disclosed herein, whether or not within the scope of or relating to the same invention as any of the preceding claims.



**Fig. 3**

INTERNATIONAL SEARCH REPORT

Intel Application No

PC1/GB 01/02721

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B25H3/04 B62B3/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B25H B62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 874 531 A (MAYO WILLIAM D) 1 April 1975 (1975-04-01)	1-14, 16-18, 24-26, 34,35
Y	column 6, line 8-10; figure 20 column 6, line 26-31; figure 23	15,31-33
Y	US 3 489 426 A (BOND JOHN R J) 13 January 1970 (1970-01-13)	15
A	figures	1
X	US 5 833 250 A (SCHIER WALTER ET AL) 10 November 1998 (1998-11-10)	1,10-12, 19-22, 34,35
Y	column 5, line 17-56; figures	23,31-33
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

11 October 2001

Date of mailing of the international search report

19/10/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Dietz, N

INTERNATIONAL SEARCH REPORT

Inter national Application No

PCI/GB 01/02721

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 894 748 A (RATCLIFF JAMES E) 15 July 1975 (1975-07-15) column 3, line 51-66; figures ---	1-5, 7-13,16, 19,22, 24,34,35
X	US 5 390 944 A (SHERWIN WILLIAM C) 21 February 1995 (1995-02-21) column 3, line 42-57; figures ---	1,2,7-9, 24-26, 30,34,35 23,27-30
Y	US 5 971 333 A (FIEDOR JOSEPH E) 26 October 1999 (1999-10-26) column 3, line 6-40; figures -----	27-30
A		1

INTERNATIONAL SEARCH REPORT

Inter	l Application No
PC...	01/02721

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3874531	A	01-04-1975	NONE	
US 3489426	A	13-01-1970	NONE	
US 5833250	A	10-11-1998	NONE	
US 3894748	A	15-07-1975	NONE	
US 5390944	A	21-02-1995	NONE	
US 5971333	A	26-10-1999	NONE	